INDIANA DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT

SAMPLING BULK CONTAINERS OF GLASS BEADS
ITM No. 811-08T

1.0 SCOPE.

1.1 This test method covers the procedures to be used when sampling glass beads shipped in bulk containers.

1.2 Glass beads are specified for use in and on pavement marking materials to provide retroreflectivity.

1.3 Glass beads contain various sizes of beads and settling or shifting of the smaller beads to the bottom of the containers occurs during shipment. Therefore, the use of a sampling probe is necessary when extracting samples for testing.

1.4 The values stated in either acceptable English or SI metric units are to be regarded separately as standard, as appropriate for a specification with which this ITM is used. Within the text, SI metric units are shown in parenthesis. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other, without combining values in any way.

1.5 This ITM may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the use of the test method. The user of the ITM is responsible for establishing appropriate safety and health practices and to determining the applicability of regulatory limitations prior to use.

2.0 REFERENCES.

2.1 ITM Standards.

802 Random Sampling

3.0 TERMINOLGY. Definitions for terms and abbreviations shall be in accordance with the Department's Standard Specifications, Section 101.

4.0 SIGNIFICANCE AND USE. This ITM shall be used to sample glass beads shipped in bulk containers.

5.0 APPARATUS.

5.1 **Sampling probe.** The sampling probe shall consist of two non-reactive metal tubes, one fitting inside the other. The inner tube shall be approximately 48 in. (1200 mm) in length with a diameter of 0.75 in. (19 mm). On one side of the tube a minimum of 13 holes shall be drilled. The holes shall be 3/16 to 3/8 in. (4.75 mm to 9.53 mm) in diameter starting 2 in. (50mm) from the bottom end on 2 ± 0.5 in. (50 ± 13 mm) centers. The bottom of the inner tube shall be round and solid. The outer tube shall be "T" shaped with a diameter of approximately 1 in. (25 mm). The long side of the outer tube shall have a length that shall cover all of the holes on the inner tube of the probe.

5.2 **Specimen containers.** The specimen containers shall be 1 quart (1 liter) round double friction top metal paint cans.

6.0 GENERAL REQUIREMENTS.

6.1 Each sample shall consist of three specimens for testing, with each specimen obtained randomly to represent the batch or lot of glass beads. Each specimen of each sample shall be required to pass all of the specified tests for acceptance.

6.2 Testing will be conducted by the Office of Materials Management.

7.0 SAMPLING.

7.1 Three bulk containers per batch or lot of glass beads will be sampled. The containers will be randomly selected in accordance with ITM 802. A 1 quart (1 liter) specimen from each of the selected containers will be extracted.

7.2 The lid of the container will be completely removed and plastic liner opened. The sampling probe will be inserted at different locations, equal distance apart around the top of the container. Three to four insertions of the sampling probe will be required to extract each specimen.

7.3 With the inner tube placed inside of the outer tube of the sampling probe insert the probe at an approximate angle of 45 degrees into the glass beads. The probe will be pushed until the probe reaches the bottom of the container.

7.4 Pull the outer "T" shaped tube from the container leaving the inner tube of the probe in the glass beads.

7.5 If necessary, carefully rotate the inner tube of the probe so the holes are facing upward and remove the probe from the glass beads to a horizontal position. Slowly pour the glass beads into the specimen container through the open end of the probe. A minimal loss of glass beads with each insertion is expected.

7.6 Repeat 7.3 through 7.5 until the specimen container is filled

7.7 Repeat 7.2 through 7.6 for each of the selected bulk containers

7.8 Label each specimen container with the batch or lot number